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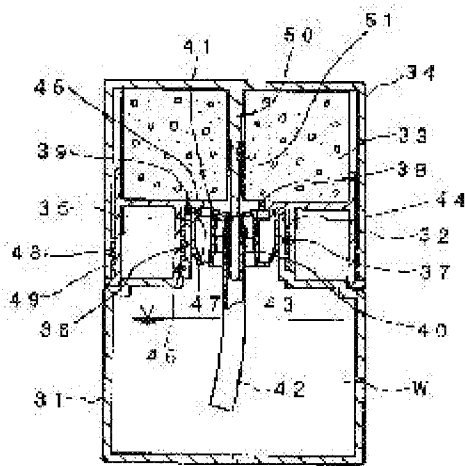
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**(54) LIQUID LEAK PREVENTION STRUCTURE IN LIQUID STORAGE CONTAINER**

(57)Abstract:

PURPOSE: To provide a liquid leak prevention structure in a liquid storage container capable of securely preventing a liquid from leaking, by eliminating a liquid leak which is caused by a liquid discharge hole deformed, when a cover member is fitted into the opening of a container main body, due to unsatisfactory formation of the opening and/or the cover member, and a liquid leak which is caused by the liquid discharge hole deformed due to external pressure exerted on the cover member when the container is used or transported.

CONSTITUTION: In a liquid leak prevention structure in a liquid storage container having a liquid discharge hole 41 made in a cover member 38 fitted into the opening 35 of a container main body 31 used for storing a liquid, and an abutting member 50 hermetically closing the liquid discharge hole 41 by abutting on this, the liquid discharge hole 41 is made in the front end of a liquid discharge pipe 40 projecting from the cover part of the cover member 38.



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## CLAIMS

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### [Claim(s)]

[Claim 1] Liquid-spill prevention structure in the liquid stowage container characterized by being prepared at the tip of a liquid discharge tube at which said liquid discharge opening protruded from a part for the covering device of covering device material in the liquid-spill prevention structure in the liquid stowage container which has the liquid discharge opening prepared in the covering device material fitted in body opening of a container which contains a liquid, and the contact member sealed in contact with this liquid discharge opening.

[Claim 2] Liquid-spill prevention structure in the liquid stowage container according to claim 1 characterized by said liquid discharge tube protruding more nearly up than a part for the covering device prepared in the covering device material inside lower part.

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

#### [0001]

[Industrial Application] This invention relates to the liquid-spill prevention structure in a liquid stowage container. a detail -- body opening of a container -- and -- or the liquid spill by deformation of the liquid spill by deformation of the liquid discharge opening at the time of the fit-in accompanied by poor shaping of covering device material and the liquid discharge opening accompanying the external pressure for the covering device at the time of use and conveyance etc. is lost, and it is related with the liquid-spill prevention structure in the liquid stowage container which can realize positive liquid-spill prevention.

#### [0002]

[Description of the Prior Art] Conventionally, as liquid-spill prevention structure in a liquid stowage container, there are some which were shown in drawing 14 and drawing 15 . The structure shown in drawing 14 forms the liquid discharge opening 14 in the base of the covering device material 13 of the cross-section abbreviation mold for U characters fitted in the opening 12 of the body 11 of a container which contains Liquid W. It prepares and grows into the cap inside in which the contact member 15 sealed in contact with this liquid discharge opening 14 is attached through an inside fixed frame by the body 11 of a container. The contact member 15 seals a cap by attaching in the body 11 of a container in contact with the liquid discharge opening 14 of the covering device material 13, and liquid-spill prevention of the container concerned is made.

[0003] The outer cover 23 of the cross-section abbreviation mold for U characters fitted in the opening 22 of the body 21 of a container with which the structure shown in drawing 15 contains Liquid W, While a lower limit frequents the covering device material which consists of an inner lid 25 which has the liquid discharge opening 24 inserted in this outer cover 23, and the bottom hole 26 established in said outer cover 23 through a coil spring 27 and upper limit frequents the liquid discharge opening 24 of a top cover 25 Because the \*\*\*\*\* contact section 28 prepared near the upper limit consists of the rise-and-fall pin 29 which carries out contact alienation at the liquid discharge opening 24, and seals or opens the liquid discharge opening 24 and presses said rise-and-fall pin 29 in connection with upper limit frequenting the liquid discharge opening 24

When the liquid discharge opening 24 is opened wide, the regurgitation of the liquid of the body of container 21 interior can be carried out and it does not press. The rise-and-fall pin 29 is pushed up by the elastic force of a coil spring 27, the contact section 28 seals the liquid discharge opening 24 in contact with the liquid discharge opening 24, and liquid-spill prevention of the container concerned is made.

[0004]

[Problem(s) to be Solved by the Invention] However, if it is in a liquid stowage container as shown in drawing 14, since it is fabricated by blow molding in many cases, the configuration of the opening 12 of the body 11 of a container may not be fabricated in the shape of a perfect circle. In this case, when the covering device material 13 is fitted in the opening 12 of the body 11 of a container, When the contact member 15 is made to contact the liquid discharge opening 14 by the covering device material 13 deforming according to the configuration of opening 12, and the liquid discharge opening 14 prepared in the base of the covering device material 13 in connection with this also deforming, and attaching a cap in the body 11 of a container. The liquid discharge opening 14 could not be sealed and the liquid spill of the container 11 concerned was not able to be prevented certainly. Moreover, when the configuration of the covering device material 13 fitted in opening 12 was not fabricated in the shape of a perfect circle and the covering device material 13 was similarly fitted in opening 12, the liquid discharge opening 14 deformed, and perfect seal of the liquid discharge opening 14 by the contact member 15 was not completed, but the liquid spill was produced.

[0005] Since many consist of blow molding on the other hand even if it is in the liquid stowage container shown in drawing 15. When the configuration of the opening 22 of the body 21 of a container may not be fabricated in the shape of a perfect circle and fits the covering device material 13 in the opening 12 of the body 11 of a container in this case, When the \*\*\*\*\* contact section 28 which the liquid discharge opening 24 of the inner lid 25 inserted in the covering device material 13 deformed, and rise-and-fall pin 29 upper limit went into the liquid discharge opening 24, and was prepared near the upper limit contacts the liquid discharge opening 24, The result that it became impossible for the liquid discharge opening 24 to seal completely in the contact section 28, and it produced a liquid spill was caused. Moreover, when the covering device material 13 or the inner lid 25 inserted in this was not fabricated in the shape of a perfect circle, similarly the liquid discharge opening 24 could not be completely sealed by the contact section 28, but the liquid spill was produced.

[0006] Furthermore, with the leakage prevention structure in the liquid stowage container shown in drawing 14 and drawing 15, it becomes impossible for the liquid discharge openings 14 and 24 to have deformed, also when external pressure joined a part for a covering device at the time of use and conveyance, and to have maintained the perfect seal condition of the liquid discharge openings 14 and 24, and the liquid spill might be produced.

[0007] in addition, the thing for which a liquid stowage container is changed to blow molding, and an injection-blow-molding method is used -- body opening of a container -- and -- or poor shaping of covering device material and the problem on the technique in which it cannot fabricate to a perfect circle are solvable. However, injection blow molding has the fault that a production cost becomes high, the top where productivity is bad, and deformation of the liquid discharge opening by the external pressure for the covering device moreover mentioned above and solution of the problem of a liquid spill were not completed.

[0008] this invention is made in view of such a situation -- having -- body opening of a container -- and -- or the liquid spill by deformation of the liquid spill by deformation of the liquid

discharge opening at the time of the fit-in accompanied by poor shaping of covering device material and the liquid discharge opening accompanying the external pressure for the covering device at the time of use and conveyance etc. is lost, and it aims at offering the liquid-spill prevention structure in the liquid stowage container which can realize positive liquid-spill prevention.

[0009]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention according to claim 1 "In the liquid-spill prevention structure in the liquid stowage container which has the liquid discharge opening prepared in the covering device material fitted in body opening of a container which contains a liquid, and the contact member sealed in contact with this liquid discharge opening Said liquid discharge opening made the summary liquid-spill prevention structure in the liquid stowage container characterized by being prepared at the tip of a liquid discharge tube which protruded from a part for the covering device of covering device material."

[0010] Invention according to claim 2 made the summary "liquid-spill prevention structure in the liquid stowage container characterized by the liquid discharge tube protruding more nearly up than a part for the covering device prepared in the covering device material inside lower part."

[0011]

[Function] If it is in the liquid-spill prevention structure in a liquid stowage container according to claim 1 From having prepared the liquid discharge opening at the tip of a liquid discharge tube which protruded from a part for the covering device of covering device material the covering device material inside -- between liquid discharge tubes -- a clearance -- it can do -- body opening of a container -- and -- or, even if covering device material deforms because covering device material fits not a perfect circle but covering device material in body opening of a container Or even if covering device material deforms with external pressure, the liquid discharge opening which was not influenced [ the ] directly and prepared at the tip of a liquid discharge tube does not deform.

[0012] If it is in the liquid-spill prevention structure in a liquid stowage container according to claim 2 Since the liquid discharge tube was protruded and the liquid discharge opening was prepared at this tip of a liquid discharge tube from a part for the covering device prepared in the covering device material inside lower part, the clearance made between the liquid discharge tubes of the covering device material inside is used. The inner ring stuck on both sides of the inside upper limit part and collar of covering device material between the necks of the body of a container can be put in now.

[0013]

[Example] Hereafter, it explains to a detail according to one example which showed the liquid-spill prevention structure in the liquid stowage container of this invention to the drawing.

Drawing 1 - drawing 10 show the mode which protruded the liquid discharge tube from a part for the covering device prepared in the covering device material inside lower part. The liquid stowage container shown in drawing 1 R> 1, drawing 2 , and drawing 3 is a container which contains wax liquid W, and is equipped with the body 31 of a container, the inside fixed frame 32 which has the wax application section 33, and cap 34. As for the body 31 of a container, wax liquid W is contained by nothing and its interior in the shape of a cylinder. In body of container 31 top face, it has opening 35, and the neck 37 by which the screw slot 36 was formed in the peripheral face is formed. The covering device material 38 is fitted in the opening 35 of this body 31 of a container.

[0014] When it is the elastic body by which resin shaping was carried out at the cross-section abbreviation mold for U characters, a collar 39 is formed in the upper limit periphery and the covering device material 38 is fitted in the opening 35 of the body 31 of a container, the collar 39 concerned sticks the covering device material 38 to neck 37 end face of the body 31 of a container, and liquid-spill prevention is presented with it. Moreover, the liquid discharge tube 40 protrudes on covering device part 38a of the covering device material 38 inside lower part, and the clearance is made between this liquid discharge tube 40 and the covering device material 38 insides. The liquid discharge opening 41 is formed at this liquid discharge-tube 40 tip, it is open for free passage to the liquid discharge opening 41, and the communication trunk 43 which connects the liquid delivery tube 42 soaked into the wax liquid W contained in the body 31 of a container is allotted to the method of the inside of the liquid discharge tube 40. The collar 39 of an upper limit periphery is being inserted and fixed to this covering device material 38 up list between the neck 37 of the body 31 of a container, and the installation ring 44 of the inside fixed frame 32. In addition, since the covering device material 38 is an elastic body in the case of this example, even if external pressure etc. acts, the part which touches the neck 37 of the covering device material 38, a collar 39, and covering device part 38a carry out elastic deformation, the force is absorbed, and external pressure influences even the liquid discharge tube 40 which protruded on covering device part 38a.

[0015] The wax application section 33 which consists of sponge material is attached in superior lamella 45 front face of the inside fixed frame 32, and the through tube 51 which the contact member 50 mentioned later penetrates is formed in the central part of this wax application section 33. Moreover, the installation ring 44 with which the screw thread 46 was formed in the inner skin side is attached in the rear face of a superior lamella 45, this screw thread 46 and the screw slot 36 of the neck 37 of said body 31 of a container screw on, and immobilization on the body 31 of a container of the inside fixed frame 32 is made. Moreover, when [ of said installation ring 44 of superior lamella 45 rear face ] the inner ring 47 is attached further inside, the covering device material 38 is fitted in the opening 35 of the body 31 of a container and the inside fixed frame 32 is fixed to the body 31 of a container, The inside upper limit part and collar 39 of the covering device material 38 will be inserted with the superior lamella 45 of the inside fixed frame 32, the neck 37 of the body 31 of a container, and an inner ring 47, and will stick, and improvement in liquid-spill prevention is measured. Moreover, the installation to the inside fixed frame 32 of cap 34 is made by making the screw slot 49 which the screw thread 48 is formed in the peripheral face lower limit of the inside fixed frame 32, and was formed in the inside peripheral surface of cap 34 at this screw thread 48 screw on.

[0016] Cap 34 is a wrap member about the wax application section 33 of superior lamella 45 front face of said inside fixed frame 32. By the rod-like contact member 50 protruding on the inside central part, and making the screw slot 49 of cap 34 screw on the screw thread 48 of said inside fixed frame 32 As shown in drawing 1 , drawing 3 , and drawing 4 , the through tube 51 which the contact member 50 formed in the wax application section 33 of the inside fixed frame 32 is penetrated, the liquid discharge opening 41 at liquid discharge-tube 40 tip which protruded from covering device material 38 bases is contacted, this is sealed, and prevention of a liquid spill is made.

[0017] Next, the liquid-spill prevention structure in the liquid stowage container shown in drawing 6 , drawing 7 , and drawing 8 is explained. The mode shown in a drawing consists of the covering device material fitted in the opening 62 of the body 61 of a container which contains Liquid W, and the rise-and-fall pin 64 which formed the \*\*\*\*\* contact section 63 near the

upper limit.

[0018] As for the body 61 of a container, water repellant liquid W is contained by nothing and its interior in the shape of a semi-sphere. It has opening 62 in body of container 61 top face, and the neck 66 by which the screw slot 65 was formed in the peripheral face is formed in it. Covering device material is fitted in the opening 62 of this body 61 of a container.

[0019] Covering device material is the elastic body by which resin shaping was carried out at the cross-section abbreviation mold for U characters, and consists of an outer cover 67 fitted in the opening 62 of the body 61 of a container which contains Liquid W, and an inner lid 68 inserted in this outer cover 67. When the collar 69 is formed in said outer cover 67 upper-limit periphery and covering device material is fitted in the opening 62 of the body 61 of a container, the collar 69 concerned sticks to neck 66 end face of the body 61 of a container, and liquid-spill prevention is presented with it. Moreover, the bottom hole 70 which rise-and-fall pin 64 lower limit frequents is established in outer cover 67 pars basilaris ossis occipitalis. The collar 71 which sticks the shape of a cylinder to the collar 69 of said outer cover 67 in nothing and its upper limit periphery is formed, the liquid discharge tube 72 which formed the liquid discharge opening 73 at the tip protrudes on covering device part 68a of the inside lower part, and the inner lid 68 is made by the clearance between this liquid discharge tube 72 and the inner lid 68 inside. In addition, since covering device material is an elastic body in the case of this example, even if external pressure etc. acts, covering device part 68a of an outer cover 67 or the inner lid 68 carries out elastic deformation, the force is absorbed, and external pressure influences even the liquid discharge tube 72 which protruded on covering device part 68a.

[0020] The rise-and-fall pin 64 is a pin which formed the \*\*\*\*\* contact section 63 near the upper limit. The lower limit frequents the bottom hole 70 of said outer cover 67 through a coil spring 83. As upper limit frequents the liquid discharge opening 73 at liquid discharge-tube 72 tip which protruded on covering device part 68a prepared in the inner lid 68 inside lower part and is shown in drawing 9 and drawing 10 In connection with upper limit frequenting the liquid discharge opening 73, the contact section 63 near the upper limit carries out contact alienation at said liquid discharge opening 73, and seals or opens the liquid discharge opening 73.

[0021] Moreover, as shown in drawing 6 and drawing 7 , in the case of this mode, the semicircle ball-like attachment frame 74 is attached in the body 61 of a container. The water-repellant-liquid spreading section 79 which consists of sponge material is attached in superior lamella 75 front face of this attachment frame 74. The installation ring 77 with which the screw thread 76 was formed in the inner skin side is formed in the rear face of a superior lamella 75, this screw thread 76 and the screw slot 65 of the neck 66 of said body 61 of a container screw on, and the installation to the body 61 of a container of the attachment frame 74 is made. Moreover, when [ of said installation ring 77 of superior lamella 75 rear face of the attachment frame 74 ] the inner ring 78 is formed further inside, covering device material is fitted in the opening 62 of the body 61 of a container and the attachment frame 74 is attached in the body 61 of a container, The inside upper limit part and collars 69 and 71 of covering device material (inner lid 68) will be inserted with the superior lamella 75 of the attachment frame 74, the neck 66 of the body 61 of a container, and an inner ring 78, and will stick, and improvement in liquid-spill prevention is measured. Moreover, by forming the hook 80 of a pair in the location where the peripheral face of the attachment frame 74 opposes, and inserting said water-repellant-liquid spreading section 79 in the mounting hole 82 of the wrap covering 81 for this hook 80, covering 81 rotates the attachment frame 74 top, the water-repellant-liquid spreading section 79 top is wide opened at the time of use, and the water-repellant-liquid spreading section 79 is covered at the time of un-

using it.

[0022] Moreover, as a liquid discharge tube is shown in drawing 11 besides the mode which protruded from a part for the covering device prepared in the covering device material inside lower part shown in above-mentioned drawing 1 - drawing 10 Covering device part 94a is prepared in the covering device material 94 inside upper part fitted in the opening 92 of the neck 93 prepared in body of container 91 top face which contains Liquid W. From this covering device part 94a, the liquid discharge tube 95 is turned caudad, it protrudes, the liquid discharge opening 96 is formed at that tip, and to this liquid discharge opening 96, the liquid discharge opening 96 can be sealed or opened because the contact member 97 carries out contact alienation.

[0023] Moreover, as shown in drawing 12 or drawing 13 , covering device part 100a can be prepared in covering device material 100 inside pars intermedia, and the liquid discharge tube 101 can also be formed for the upper part or the liquid discharge opening 102 in which the contact member 103 carries out contact alienation at that tip by turning caudad and protruding from this covering device part 100a.

[0024]

[Effect of the Invention] If it is in the liquid-spill prevention structure in a liquid stowage container according to claim 1 From having prepared the liquid discharge opening at the tip of a liquid discharge tube which protruded from a part for the covering device of covering device material the covering device material inside -- between liquid discharge tubes -- a clearance -- it can do -- body opening of a container -- and -- or, even if covering device material deforms because covering device material fits not a perfect circle but covering device material in body opening of a container Or even if covering device material deforms with external pressure, the liquid discharge opening which was not influenced [ the ] directly and prepared at the tip of a liquid discharge tube does not deform. for this reason, body opening of a container -- and -- or the liquid spill accompanying the external pressure for the covering device at the liquid spill accompanied by poor shaping of covering device material and the time of use and conveyance can be lost, and positive liquid-spill prevention can be realized.

[0025] If it is in the liquid-spill prevention structure in a liquid stowage container according to claim 2 Since the liquid discharge tube was protruded and the liquid discharge opening was prepared at this tip of a liquid discharge tube from a part for the covering device prepared in the covering device material inside lower part, the clearance made between the liquid discharge tubes of the covering device material inside is used. The inner ring stuck on both sides of the inside upper limit part and collar of covering device material between the necks of the body of a container can be put in, and improvement in liquid-spill prevention can be measured.

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## TECHNICAL FIELD

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[Industrial Application] This invention relates to the liquid-spill prevention structure in a liquid stowage container. a detail -- body opening of a container -- and -- or the liquid spill by deformation of the liquid spill by deformation of the liquid discharge opening at the time of the fit-in accompanied by poor shaping of covering device material and the liquid discharge opening accompanying the external pressure for the covering device at the time of use and conveyance etc. is lost, and it is related with the liquid-spill prevention structure in the liquid stowage container which can realize positive liquid-spill prevention.



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## PRIOR ART

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[Description of the Prior Art] Conventionally, as liquid-spill prevention structure in a liquid stowage container, there are some which were shown in drawing 14 and drawing 15. The structure shown in drawing 14 forms the liquid discharge opening 14 in the base of the covering device material 13 of the cross-section abbreviation mold for U characters fitted in the opening 12 of the body 11 of a container which contains Liquid W. It prepares and grows into the cap inside in which the contact member 15 sealed in contact with this liquid discharge opening 14 is attached through an inside fixed frame by the body 11 of a container. The contact member 15 seals a cap by attaching in the body 11 of a container in contact with the liquid discharge opening 14 of the covering device material 13, and liquid-spill prevention of the container concerned is made.

[0003] The outer cover 23 of the cross-section abbreviation mold for U characters fitted in the opening 22 of the body 21 of a container with which the structure shown in drawing 15 contains Liquid W, While a lower limit frequents the covering device material which consists of an inner lid 25 which has the liquid discharge opening 24 inserted in this outer cover 23, and the bottom hole 26 established in said outer cover 23 through a coil spring 27 and upper limit frequents the liquid discharge opening 24 of a top cover 25 Because the \*\*\*\*\* contact section 28 prepared near the upper limit consists of the rise-and-fall pin 29 which carries out contact alienation at the liquid discharge opening 24, and seals or opens the liquid discharge opening 24 and presses said rise-and-fall pin 29 in connection with upper limit frequenting the liquid discharge opening 24 When the liquid discharge opening 24 is opened wide, the regurgitation of the liquid of the body of container 21 interior can be carried out and it does not press The rise-and-fall pin 29 is pushed up by the elastic force of a coil spring 27, the contact section 28 seals the liquid discharge opening 24 in contact with the liquid discharge opening 24, and liquid-spill prevention of the container concerned is made.

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## EFFECT OF THE INVENTION

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[Effect of the Invention] If it is in the liquid-spill prevention structure in a liquid stowage container according to claim 1 From having prepared the liquid discharge opening at the tip of a liquid discharge tube which protruded from a part for the covering device of covering device material the covering device material inside -- between liquid discharge tubes -- a clearance -- it can do -- body opening of a container -- and -- or, even if covering device material deforms because covering device material fits not a perfect circle but covering device material in body opening of a container Or even if covering device material deforms with external pressure, the liquid discharge opening which was not influenced [ the ] directly and prepared at the tip of a liquid discharge tube does not deform. for this reason, body opening of a container -- and -- or the liquid spill accompanying the external pressure for the covering device at the liquid spill accompanied by poor shaping of covering device material and the time of use and conveyance can be lost, and positive liquid-spill prevention can be realized.

[0025] If it is in the liquid-spill prevention structure in a liquid stowage container according to claim 2 Since the liquid discharge tube was protruded and the liquid discharge opening was

prepared at this tip of a liquid discharge tube from a part for the covering device prepared in the covering device material inside lower part, the clearance made between the liquid discharge tubes of the covering device material inside is used. The inner ring stuck on both sides of the inside upper limit part and collar of covering device material between the necks of the body of a container can be put in, and improvement in liquid-spill prevention can be measured.

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## TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] However, if it is in a liquid stowage container as shown in drawing 14 , since it is fabricated by blow molding in many cases, the configuration of the opening 12 of the body 11 of a container may not be fabricated in the shape of a perfect circle. In this case, when the covering device material 13 is fitted in the opening 12 of the body 11 of a container, When the contact member 15 is made to contact the liquid discharge opening 14 by the covering device material 13 deforming according to the configuration of opening 12, and the liquid discharge opening 14 prepared in the base of the covering device material 13 in connection with this also deforming, and attaching a cap in the body 11 of a container The liquid discharge opening 14 could not be sealed and the liquid spill of the container 11 concerned was not able to be prevented certainly. Moreover, when the configuration of the covering device material 13 fitted in opening 12 was not fabricated in the shape of a perfect circle and the covering device material 13 was similarly fitted in opening 12, the liquid discharge opening 14 deformed, and perfect seal of the liquid discharge opening 14 by the contact member 15 was not completed, but the liquid spill was produced.

[0005] Since many consist of blow molding on the other hand even if it is in the liquid stowage container shown in drawing 15 When the configuration of the opening 22 of the body 21 of a container may not be fabricated in the shape of a perfect circle and fits the covering device material 13 in the opening 12 of the body 11 of a container in this case, When the \*\*\*\*\* contact section 28 which the liquid discharge opening 24 of the inner lid 25 inserted in the covering device material 13 deformed, and rise-and-fall pin 29 upper limit went into the liquid discharge opening 24, and was prepared near the upper limit contacts the liquid discharge opening 24, The result that it became impossible for the liquid discharge opening 24 to seal completely in the contact section 28, and it produced a liquid spill was caused. Moreover, when the covering device material 13 or the inner lid 25 inserted in this was not fabricated in the shape of a perfect circle, similarly the liquid discharge opening 24 could not be completely sealed by the contact section 28, but the liquid spill was produced.

[0006] Furthermore, with the leakage prevention structure in the liquid stowage container shown in drawing 14 and drawing 15 , it becomes impossible for the liquid discharge openings 14 and 24 to have deformed, also when external pressure joined a part for a covering device at the time of use and conveyance, and to have maintained the perfect seal condition of the liquid discharge openings 14 and 24, and the liquid spill might be produced.

[0007] in addition, the thing for which a liquid stowage container is changed to blow molding, and an injection-blow-molding method is used -- body opening of a container -- and -- or poor shaping of covering device material and the problem on the technique in which it cannot fabricate to a perfect circle are solvable. However, injection blow molding has the fault that a production cost becomes high, the top where productivity is bad, and deformation of the liquid discharge opening by the external pressure for the covering device moreover mentioned above

and solution of the problem of a liquid spill were not completed.

[0008] this invention is made in view of such a situation -- having -- body opening of a container -- and -- or the liquid spill by deformation of the liquid spill by deformation of the liquid discharge opening at the time of the fit-in accompanied by poor shaping of covering device material and the liquid discharge opening accompanying the external pressure for the covering device at the time of use and conveyance etc. is lost, and it aims at offering the liquid-spill prevention structure in the liquid stowage container which can realize positive liquid-spill prevention.

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## MEANS

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[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention according to claim 1 "In the liquid-spill prevention structure in the liquid stowage container which has the liquid discharge opening prepared in the covering device material fitted in body opening of a container which contains a liquid, and the contact member sealed in contact with this liquid discharge opening Said liquid discharge opening made the summary liquid-spill prevention structure in the liquid stowage container characterized by being prepared at the tip of a liquid discharge tube which protruded from a part for the covering device of covering device material."

[0010] Invention according to claim 2 made the summary "liquid-spill prevention structure in the liquid stowage container characterized by the liquid discharge tube protruding more nearly up than a part for the covering device prepared in the covering device material inside lower part."

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## OPERATION

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[Function] If it is in the liquid-spill prevention structure in a liquid stowage container according to claim 1 From having prepared the liquid discharge opening at the tip of a liquid discharge tube which protruded from a part for the covering device of covering device material the covering device material inside -- between liquid discharge tubes -- a clearance -- it can do -- body opening of a container -- and -- or, even if covering device material deforms because covering device material fits not a perfect circle but covering device material in body opening of a container Or even if covering device material deforms with external pressure, the liquid discharge opening which was not influenced [ the ] directly and prepared at the tip of a liquid discharge tube does not deform.

[0012] If it is in the liquid-spill prevention structure in a liquid stowage container according to claim 2 Since the liquid discharge tube was protruded and the liquid discharge opening was prepared at this tip of a liquid discharge tube from a part for the covering device prepared in the covering device material inside lower part, the clearance made between the liquid discharge tubes of the covering device material inside is used. The inner ring stuck on both sides of the inside upper limit part and collar of covering device material between the necks of the body of a container can be put in now.

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## EXAMPLE

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[Example] Hereafter, it explains to a detail according to one example which showed the liquid-spill prevention structure in the liquid stowage container of this invention to the drawing.

Drawing 1 - drawing 10 show the mode which protruded the liquid discharge tube from a part for the covering device prepared in the covering device material inside lower part. The liquid stowage container shown in drawing 1 R> 1, drawing 2 , and drawing 3 is a container which contains wax liquid W, and is equipped with the body 31 of a container, the inside fixed frame 32 which has the wax application section 33, and cap 34. As for the body 31 of a container, wax liquid W is contained by nothing and its interior in the shape of a cylinder. In body of container 31 top face, it has opening 35, and the neck 37 by which the screw slot 36 was formed in the peripheral face is formed. The covering device material 38 is fitted in the opening 35 of this body 31 of a container.

[0014] When it is the elastic body by which resin shaping was carried out at the cross-section abbreviation mold for U characters, a collar 39 is formed in the upper limit periphery and the covering device material 38 is fitted in the opening 35 of the body 31 of a container, the collar 39 concerned sticks the covering device material 38 to neck 37 end face of the body 31 of a container, and liquid-spill prevention is presented with it. Moreover, the liquid discharge tube 40 protrudes on covering device part 38a of the covering device material 38 inside lower part, and the clearance is made between this liquid discharge tube 40 and the covering device material 38 insides. The liquid discharge opening 41 is formed at this liquid discharge-tube 40 tip, it is open for free passage to the liquid discharge opening 41, and the communication trunk 43 which connects the liquid delivery tube 42 soaked into the wax liquid W contained in the body 31 of a container is allotted to the method of the inside of the liquid discharge tube 40. The collar 39 of an upper limit periphery is being inserted and fixed to this covering device material 38 up list between the neck 37 of the body 31 of a container, and the installation ring 44 of the inside fixed frame 32. In addition, since the covering device material 38 is an elastic body in the case of this example, even if external pressure etc. acts, the part which touches the neck 37 of the covering device material 38, a collar 39, and covering device part 38a carry out elastic deformation, the force is absorbed, and external pressure influences even the liquid discharge tube 40 which protruded on covering device part 38a.

[0015] The wax application section 33 which consists of sponge material is attached in superior lamella 45 front face of the inside fixed frame 32, and the through tube 51 which the contact member 50 mentioned later penetrates is formed in the central part of this wax application section 33. Moreover, the installation ring 44 with which the screw thread 46 was formed in the inner skin side is attached in the rear face of a superior lamella 45, this screw thread 46 and the screw slot 36 of the neck 37 of said body 31 of a container screw on, and immobilization on the body 31 of a container of the inside fixed frame 32 is made. Moreover, when [ of said installation ring 44 of superior lamella 45 rear face ] the inner ring 47 is attached further inside, the covering device material 38 is fitted in the opening 35 of the body 31 of a container and the inside fixed frame 32 is fixed to the body 31 of a container, The inside upper limit part and collar 39 of the covering device material 38 will be inserted with the superior lamella 45 of the inside fixed frame 32, the neck 37 of the body 31 of a container, and an inner ring 47, and will stick, and improvement in liquid-spill prevention is measured. Moreover, the installation to the inside fixed frame 32 of cap 34 is made by making the screw slot 49 which the screw thread 48 is formed in the peripheral face lower limit of the inside fixed frame 32, and was formed in the inside peripheral surface of cap 34 at this screw thread 48 screw on.

[0016] Cap 34 is a wrap member about the wax application section 33 of superior lamella 45 front face of said inside fixed frame 32. By the rod-like contact member 50 protruding on the inside central part, and making the screw slot 49 of cap 34 screw on the screw thread 48 of said inside fixed frame 32 As shown in drawing 1 , drawing 3 , and drawing 4 , the through tube 51 which the contact member 50 formed in the wax application section 33 of the inside fixed frame 32 is penetrated, the liquid discharge opening 41 at liquid discharge-tube 40 tip which protruded from covering device material 38 bases is contacted, this is sealed, and prevention of a liquid spill is made.

[0017] Next, the liquid-spill prevention structure in the liquid stowage container shown in drawing 6 , drawing 7 , and drawing 8 is explained. The mode shown in a drawing consists of the covering device material fitted in the opening 62 of the body 61 of a container which contains Liquid W, and the rise-and-fall pin 64 which formed the \*\*\*\*\* contact section 63 near the upper limit.

[0018] As for the body 61 of a container, water repellant liquid W is contained by nothing and its interior in the shape of a semi-sphere. It has opening 62 in body of container 61 top face, and the neck 66 by which the screw slot 65 was formed in the peripheral face is formed in it. Covering device material is fitted in the opening 62 of this body 61 of a container.

[0019] Covering device material is the elastic body by which resin shaping was carried out at the cross-section abbreviation mold for U characters, and consists of an outer cover 67 fitted in the opening 62 of the body 61 of a container which contains Liquid W, and an inner lid 68 inserted in this outer cover 67. When the collar 69 is formed in said outer cover 67 upper-limit periphery and covering device material is fitted in the opening 62 of the body 61 of a container, the collar 69 concerned sticks to neck 66 end face of the body 61 of a container, and liquid-spill prevention is presented with it. Moreover, the bottom hole 70 which rise-and-fall pin 64 lower limit frequents is established in outer cover 67 pars basilaris ossis occipitalis. The collar 71 which sticks the shape of a cylinder to the collar 69 of said outer cover 67 in nothing and its upper limit periphery is formed, the liquid discharge tube 72 which formed the liquid discharge opening 73 at the tip protrudes on covering device part 68a of the inside lower part, and the inner lid 68 is made by the clearance between this liquid discharge tube 72 and the inner lid 68 inside. In addition, since covering device material is an elastic body in the case of this example, even if external pressure etc. acts, covering device part 68a of an outer cover 67 or the inner lid 68 carries out elastic deformation, the force is absorbed, and external pressure influences even the liquid discharge tube 72 which protruded on covering device part 68a.

[0020] The rise-and-fall pin 64 is a pin which formed the \*\*\*\*\* contact section 63 near the upper limit. The lower limit frequents the bottom hole 70 of said outer cover 67 through a coil spring 83. As upper limit frequents the liquid discharge opening 73 at liquid discharge-tube 72 tip which protruded on covering device part 68a prepared in the inner lid 68 inside lower part and is shown in drawing 9 and drawing 10 In connection with upper limit frequenting the liquid discharge opening 73, the contact section 63 near the upper limit carries out contact alienation at said liquid discharge opening 73, and seals or opens the liquid discharge opening 73.

[0021] Moreover, as shown in drawing 6 and drawing 7 , in the case of this mode, the semicircle ball-like attachment frame 74 is attached in the body 61 of a container. The water-repellant-liquid spreading section 79 which consists of sponge material is attached in superior lamella 75 front face of this attachment frame 74. The installation ring 77 with which the screw thread 76 was formed in the inner skin side is formed in the rear face of a superior lamella 75, this screw thread 76 and the screw slot 65 of the neck 66 of said body 61 of a container screw on, and the

installation to the body 61 of a container of the attachment frame 74 is made. Moreover, when [ of said installation ring 77 of superior lamella 75 rear face of the attachment frame 74 ] the inner ring 78 is formed further inside, covering device material is fitted in the opening 62 of the body 61 of a container and the attachment frame 74 is attached in the body 61 of a container, The inside upper limit part and collars 69 and 71 of covering device material (inner lid 68) will be inserted with the superior lamella 75 of the attachment frame 74, the neck 66 of the body 61 of a container, and an inner ring 78, and will stick, and improvement in liquid-spill prevention is measured. Moreover, by forming the hook 80 of a pair in the location where the peripheral face of the attachment frame 74 opposes, and inserting said water-repellant-liquid spreading section 79 in the mounting hole 82 of the wrap covering 81 for this hook 80, covering 81 rotates the attachment frame 74 top, the water-repellant-liquid spreading section 79 top is wide opened at the time of use, and the water-repellant-liquid spreading section 79 is covered at the time of un-using it.

[0022] Moreover, as a liquid discharge tube is shown in drawing 11 besides the mode which protruded from a part for the covering device prepared in the covering device material inside lower part shown in above-mentioned drawing 1 - drawing 10 Covering device part 94a is prepared in the covering device material 94 inside upper part fitted in the opening 92 of the neck 93 prepared in body of container 91 top face which contains Liquid W. From this covering device part 94a, the liquid discharge tube 95 is turned caudad, it protrudes, the liquid discharge opening 96 is formed at that tip, and to this liquid discharge opening 96, the liquid discharge opening 96 can be sealed or opened because the contact member 97 carries out contact alienation.

[0023] Moreover, as shown in drawing 12 or drawing 13 , covering device part 100a can be prepared in covering device material 100 inside pars intermedia, and the liquid discharge tube 101 can also be formed for the upper part or the liquid discharge opening 102 in which the contact member 103 carries out contact alienation at that tip by turning caudad and protruding from this covering device part 100a.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] The sectional view having shown the whole liquid stowage container of this invention

[Drawing 2] The sectional view having shown the condition of having removed the cap of the liquid stowage container of this invention

[Drawing 3] The perspective view of the covering device material in the liquid stowage container of this invention

[Drawing 4] The expanded sectional view showing the liquid-spill prevention structure in the liquid stowage container of this invention

[Drawing 5] The expanded sectional view showing the liquid-spill prevention structure at the time of use of the liquid stowage container of this invention

[Drawing 6] The sectional view having shown another mode of the liquid stowage container of this invention

[Drawing 7] The sectional view having shown the condition of having removed the cap of the liquid stowage container similarly shown in drawing 6

[Drawing 8] The covering device material in the liquid stowage container shown in drawing 6 , and the decomposition perspective view of a rise-and-fall pin

[Drawing 9] The expanded sectional view showing the liquid-spill prevention structure in the liquid stowage container shown in drawing 6

[Drawing 10] The expanded sectional view showing the liquid-spill prevention structure at the time of use of the liquid stowage container shown in drawing 6

[Drawing 11] The expanded sectional view showing another mode of the liquid-spill prevention structure in the liquid stowage container of this invention

[Drawing 12] The expanded sectional view showing still more nearly another mode of the liquid-spill prevention structure in the liquid stowage container of this invention

[Drawing 13] The expanded sectional view showing still more nearly another mode of the liquid-spill prevention structure in the liquid stowage container of this invention

[Drawing 14] The expanded sectional view showing the liquid-spill prevention structure in the conventional liquid stowage container

[Drawing 15] The expanded sectional view showing the liquid-spill prevention structure in another conventional liquid stowage container

[Description of Notations]

31 61 ... Body of a container

32 62 ... Opening

38 ... Covering Device Material

38a, 68a ... A part for a covering device

40 72 ... Liquid discharge tube

41 73 ... Liquid discharge opening

50 ... Contact Member

63 ... Contact Section

64 ... Rise-and-Fall Pin

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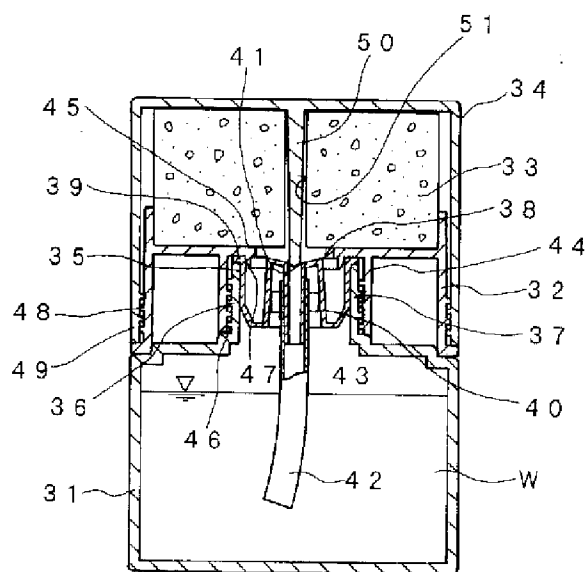
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(54) 【発明の名称】 液体収納容器における液漏れ防止構造

(57) 【要約】

【目的】 容器本体開口部及びまたは蓋部材の成形不良に伴う嵌挿時の液体吐出孔の変形による液漏れ、使用時や運搬時における蓋部分への外圧に伴う液体吐出孔の変形による液漏れなどをなくし、確実な液漏れ防止を実現することができる液体収納容器における液漏れ防止構造を提供すること。

【構成】 液体を収納する容器本体 3 1 の開口部 3 5 に嵌挿される蓋部材 3 8 に設けた液体吐出孔 4 1 と、この液体吐出孔 4 1 に当接して密封する当接部材 5 0 とを有する液体収納容器における液漏れ防止構造において、前記液体吐出孔 4 1 が蓋部材 3 8 の蓋部分より突設した液体吐出管 4 0 先端に設けられていることを特徴とする。





【特許請求の範囲】

【請求項１】 液体を収納する容器本体開口部に嵌挿される蓋部材に設けた液体吐出孔と、この液体吐出孔に当接して密封する当接部材とを有する液体収納容器における液漏れ防止構造において、前記液体吐出孔が蓋部材の蓋部分より突設した液体吐出管先端に設けられていることを特徴とする液体収納容器における液漏れ防止構造。

【請求項２】 前記液体吐出管が、蓋部材内側下部に設けた蓋部分より上方に突設していることを特徴とする請求項１記載の液体収納容器における液漏れ防止構造。

【発明の詳細な説明】

【０００１】

【産業上の利用分野】本発明は液体収納容器における液漏れ防止構造に関する。詳細には容器本体開口部及びまたは蓋部材の成形不良に伴う嵌挿時の液体吐出孔の変形による液漏れ、使用時や運搬時における蓋部分への外圧に伴う液体吐出孔の変形による液漏れなどをなくし、確実な液漏れ防止を実現することができる液体収納容器における液漏れ防止構造に関する。

【０００２】

【従来技術】従来、液体収納容器における液漏れ防止構造としては、図１４及び図１５に示したものがある。図１４に示した構造は、液体Wを収納する容器本体１１の開口部１２に嵌挿される断面略Ｕ字型の蓋部材１３の底面に液体吐出孔１４を設け、この液体吐出孔１４に当接して密封する当接部材１５を容器本体１１に内側固定枠を介して取り付けられるキャップ内側に設けて成り、キャップを容器本体１１に取り付けることで当接部材１５が蓋部材１３の液体吐出孔１４に当接して密封し、当該容器の液漏れ防止がなされるようになっていた。

【０００３】図１５に示した構造は、液体Wを収納する容器本体２１の開口部２２に嵌挿される断面略Ｕ字型の外蓋２３と、この外蓋２３に嵌め込まれる液体吐出孔２４を有する内蓋２５とからなる蓋部材と、前記外蓋２３に設けた底孔２６に下端がコイルバネ２７を介して出入りし、上端が上蓋２５の液体吐出孔２４に出入りすると共に、上端が液体吐出孔２４に出入りするのに伴って、上端近傍に設けた径大な当接部２８が液体吐出孔２４に当接離間して液体吐出孔２４を密封または開放する昇降ピン２９とから成り、前記昇降ピン２９を押圧することで、液体吐出孔２４が開放され、容器本体２１内部の液体を吐出することができ、押圧しないときは、コイルバネ２７の弾性力で昇降ピン２９が押し上げられ、その当接部２８が液体吐出孔２４に当接して液体吐出孔２４を密封し、当該容器の液漏れ防止がなされるようになっていた。

【０００４】

【発明が解決しようとする課題】ところが、図１４に示すような液体収納容器にあつては、多くの場合ブロー成

形により成形されていることから、容器本体１１の開口部１２の形状が真円状に成形されない場合もある。この場合、容器本体１１の開口部１２に蓋部材１３を嵌挿したとき、蓋部材１３は開口部１２の形状に応じて変形し、これに伴い蓋部材１３の底面に設けた液体吐出孔１４も変形してしまい、キャップを容器本体１１に取り付けることで当接部材１５を液体吐出孔１４に当接させたときに、液体吐出孔１４を密封できず、当該容器１１の液漏れを確実に防止することができなかった。また、開口部１２に嵌挿される蓋部材１３の形状が真円状に成形されない場合も同様に開口部１２に蓋部材１３を嵌挿したとき、液体吐出孔１４が変形し、当接部材１５による液体吐出孔１４の完全な密封ができず、液漏れを生じていた。

【０００５】一方、図１５に示す液体収納容器にあつても多くはブロー成形よりなるので、容器本体２１の開口部２２の形状が真円状に成形されない場合があり、この場合、容器本体１１の開口部１２に蓋部材１３を嵌挿したとき、蓋部材１３に嵌め込まれる内蓋２５の液体吐出孔２４が変形してしまい、昇降ピン２９上端が液体吐出孔２４に入り、上端近傍に設けた径大な当接部２８が液体吐出孔２４に当接したとき、液体吐出孔２４が当接部２８で完全に密封できなくなり、液漏れを生じるという結果を招いていた。また、蓋部材１３、あるいはこれに嵌め込まれる内蓋２５が真円状に成形されない場合も同様に当接部２８により液体吐出孔２４を完全に密封できず、液漏れを生じていた。

【０００６】更に、図１４及び図１５に示す液体収納容器における漏れ防止構造では、使用時や運搬時に蓋部分へ外圧が加わった場合も液体吐出孔１４、２４が変形し、液体吐出孔１４、２４の完全な密封状態が保てなくなり、液漏れを生じることがあった。

【０００７】尚、液体収納容器をブロー成形に換えてインジェクションブロー成形法を用いることで、容器本体開口部及びまたは蓋部材の成形不良、真円に成形できないという技術上の問題は解決できる。しかしながら、インジェクションブロー成形は生産性が悪い上、生産コストが高くなるという不具合があり、しかも前述した蓋部分への外圧による液体吐出孔の変形、液漏れといった問題の解決はできなかった。

【０００８】本発明は、このような事情に鑑みなされたものであり、容器本体開口部及びまたは蓋部材の成形不良に伴う嵌挿時の液体吐出孔の変形による液漏れ、使用時や運搬時における蓋部分への外圧に伴う液体吐出孔の変形による液漏れなどをなくし、確実な液漏れ防止を実現することができる液体収納容器における液漏れ防止構造を提供することを目的とするものである。

【０００９】

【課題を解決するための手段】上記目的を達成するため、請求項１記載の発明は、「液体を収納する容器本体

開口部に嵌挿される蓋部材に設けた液体吐出孔と、この液体吐出孔に当接して密封する当接部材とを有する液体収納容器における液漏れ防止構造において、前記液体吐出孔が蓋部材の蓋部分より突設した液体吐出管先端に設けられていることを特徴とする液体収納容器における液漏れ防止構造」をその要旨とした。

【0010】請求項2記載の発明は、「液体吐出管が、蓋部材内側下部に設けた蓋部分より上方に突設していることを特徴とする液体収納容器における液漏れ防止構造」をその要旨とした。

【0011】

【作用】請求項1記載の液体収納容器における液漏れ防止構造にあっては、蓋部材の蓋部分より突設した液体吐出管先端に液体吐出孔を設けたことから、蓋部材内側には液体吐出管との間に隙間ができ、容器本体開口部及びまたは蓋部材が真円でなく、蓋部材を容器本体開口部に嵌挿することで蓋部材が変形しても、あるいは外圧によって蓋部材が変形しても、その影響を直接受けることがなく、液体吐出管先端に設けた液体吐出孔が変形することがない。

【0012】請求項2記載の液体収納容器における液漏れ防止構造にあっては、蓋部材内側下部に設けた蓋部分より液体吐出管を突設し、この液体吐出管先端に液体吐出孔を設けたことから、蓋部材内側の液体吐出管との間にできた隙間を利用して、蓋部材の内側上端部分及び鏝を容器本体の首部との間に挟んで密着させるインナーリングを入れることができるようになっている。

【0013】

【実施例】以下、本発明の液体収納容器における液漏れ防止構造を図面に示した一実施例に従って詳細に説明する。図1～図10は、蓋部材内側下部に設けた蓋部分より液体吐出管を突設した態様を示したものである。図1、図2及び図3に示す液体収納容器は、ワックス液Wを収納する容器であって、容器本体31とワックス塗布部33を有する内側固定枠32とキャップ34とを備えたものである。容器本体31は円筒状をなし、その内部にはワックス液Wが収納されている。容器本体31上面には開口部35を有し、外周面にネジ溝36が形成された首部37が設けられている。この容器本体31の開口部35に蓋部材38が嵌挿されるようになっている。

【0014】蓋部材38は断面略U字型に樹脂成形された弾性体であり、その上端外周には鏝39が形成され、蓋部材38を容器本体31の開口部35に嵌挿したとき、当該鏝39が容器本体31の首部37端面に密着して液漏れ防止に供されるようになっている。また、蓋部材38内側下部の蓋部分38aには液体吐出管40が突設されており、この液体吐出管40と蓋部材38内側との間には隙間ができています。この液体吐出管40先端には液体吐出孔41が設けられており、液体吐出孔41に連通して液体吐出管40内方には容器本体31内に収納

したワックス液W中に漬けられた液体導出管42を接続する接続管43が配されている。この蓋部材38上部並びに上端外周の鏝39が容器本体31の首部37と内側固定枠32の取り付けリング44との間で挟まれて固定されている。尚、本実施例の場合、蓋部材38が弾性体であることから、外圧などが作用しても、蓋部材38の首部37に接する部分や鏝39、蓋部分38aが弾性変形してその力を吸収してしまい、蓋部分38aに突設した液体吐出管40にまで外圧が影響しないようになっている。

【0015】内側固定枠32の上板45表面にはスポンジ材よりなるワックス塗布部33が取り付けられ、このワックス塗布部33の中央部分には後述する当接部材50が貫通する貫通孔51が形成されている。また、上板45の裏面には内周面側にネジ山46が形成された取り付けリング44が取り付けられており、このネジ山46と前記容器本体31の首部37のネジ溝36とが螺着して内側固定枠32の容器本体31への固定がなされている。また、上板45裏面の前記取り付けリング44の更に内側にはインナーリング47が取り付けられており、容器本体31の開口部35に蓋部材38を嵌挿し、内側固定枠32を容器本体31に固定したとき、蓋部材38の内側上端部分及び鏝39が、内側固定枠32の上板45と容器本体31の首部37とインナーリング47とで挟まれ密着することになり、液漏れ防止の向上が計られている。また、内側固定枠32の外周面下端にはネジ山48が形成されており、このネジ山48にキャップ34の内側周面に形成したネジ溝49を螺着させることで、キャップ34の内側固定枠32への取り付けがなされるようになっている。

【0016】キャップ34は、前記内側固定枠32の上板45表面のワックス塗布部33を覆う部材であり、その内側中央部分には棒状の当接部材50が突設されており、キャップ34のネジ溝49を前記内側固定枠32のネジ山48に螺着させることで、図1、図3及び図4に示すように、当接部材50が内側固定枠32のワックス塗布部33に形成した貫通孔51を貫通して、蓋部材38底面より突設された液体吐出管40先端の液体吐出孔41に当接し、これを密封し、液漏れの防止がなされるようになっている。

【0017】次に、図6、図7及び図8に示す液体収納容器における液漏れ防止構造について説明する。図面に示す態様は、液体Wを収納する容器本体61の開口部62に嵌挿される蓋部材と、上端近傍に径大な当接部63を設けた昇降ピン64とから成る。

【0018】容器本体61は半球状をなし、その内部には撥水液Wが収納されている。容器本体61上面には、開口部62を有し、その外周面にネジ溝65が形成された首部66が設けられている。この容器本体61の開口部62に蓋部材が嵌挿されるようになっている。

【0019】蓋部材は断面略U字型に樹脂成形された弾性体であり、液体Wを収納する容器本体61の開口部62に嵌挿される外蓋67と、この外蓋67に嵌め込まれる内蓋68とからなる。前記外蓋67上端外周には鏝69が形成されており、蓋部材を容器本体61の開口部62に嵌挿したとき、当該鏝69が容器本体61の首部66端面に密着して液漏れ防止に供されるようになっている。また、外蓋67底部には昇降ピン64下端が入り出す底孔70が設けられている。内蓋68は円筒状をなし、その上端周縁には前記外蓋67の鏝69に密着する鏝71が形成され、内側下部の蓋部分68aには先端に液体吐出孔73を設けた液体吐出管72が突設されており、この液体吐出管72と内蓋68内側との間に隙間ができています。尚、本実施例の場合、蓋部材が弾性体であることから、外圧などが作用しても、外蓋67や内蓋68の蓋部分68aが弾性変形してその力を吸収してしまい、蓋部分68aに突設した液体吐出管72にまで外圧が影響しないようになっている。

【0020】昇降ピン64は、上端近傍に径大な当接部63を設けたピンであり、その下端が前記外蓋67の底孔70にコイルバネ83を介して入り出し、上端は内蓋68内側下部に設けた蓋部分68aに突設した液体吐出管72先端の液体吐出孔73に入り出すようになっている。図9及び図10に示すように、上端が液体吐出孔73に入り出すのに伴って、上端近傍の当接部63が前記液体吐出孔73に当接離間して液体吐出孔73を密封または開放するようになっている。

【0021】また、図6及び図7に示すように、この態様の場合、容器本体61には半円球状の取付枠74が取り付けられるようになっている。この取付枠74の上板75表面には、スポンジ材よりなる撥水液塗布部79が取り付けられている。上板75の裏面には、内周面側にネジ山76が形成された取り付けリング77が設けられており、このネジ山76と前記容器本体61の首部66のネジ溝65とが螺着して取付枠74の容器本体61への取り付けがなされている。また、取付枠74の上板75裏面の前記取り付けリング77の更に内側にはインナーリング78が設けられており、容器本体61の開口部62に蓋部材を嵌挿し、取付枠74を容器本体61に取り付けたとき、蓋部材（内蓋68）の内側上端部分及び鏝69、71が、取付枠74の上板75と容器本体61の首部66とインナーリング78とで挟まれ密着することになり、液漏れ防止の向上が計られている。また、取付枠74の外周面の対抗する位置には一対のフック80が設けられ、このフック80を前記撥水液塗布部79を覆うカバー81の取付孔82に嵌め込むことにより、カバー81が取付枠74上を回動し、使用時には撥水液塗布部79上を開放し、不使用時には撥水液塗布部79を覆うようになっている。

【0022】また、上記図1～図10に示した蓋部材内

側下部に設けた蓋部分より液体吐出管を突設した態様の他、図11に示すように、液体Wを収納する容器本体91上面に設けた首部93の開口部92に嵌挿される蓋部材94内側上部に蓋部分94aを設け、この蓋部分94aより液体吐出管95を下方に向けて突設し、その先端に液体吐出孔96を設け、この液体吐出孔96に当接部材97が当接離間することで、液体吐出孔96を密封または開放するようにすることもできる。

【0023】また、図12又は図13に示すように、蓋部材100内側中間部に蓋部分100aを設け、この蓋部分100aより液体吐出管101を上方または下方に向けて突設し、その先端に当接部材103が当接離間する液体吐出孔102を設けることもできる。

【0024】

【発明の効果】請求項1記載の液体収納容器における液漏れ防止構造にあっては、蓋部材の蓋部分より突設した液体吐出管先端に液体吐出孔を設けたことから、蓋部材内側には液体吐出管との間に隙間ができ、容器本体開口部及びまたは蓋部材が真円でなく、蓋部材を容器本体開口部に嵌挿することで蓋部材が変形しても、あるいは外圧によって蓋部材が変形しても、その影響を直接受けることがなく、液体吐出管先端に設けた液体吐出孔が変形することがない。このため、容器本体開口部及びまたは蓋部材の成形不良に伴う液漏れや、使用時や運搬時における蓋部分への外圧に伴う液漏れをなくし、確実な液漏れ防止を実現することができる。

【0025】請求項2記載の液体収納容器における液漏れ防止構造にあっては、蓋部材内側下部に設けた蓋部分より液体吐出管を突設し、この液体吐出管先端に液体吐出孔を設けたことから、蓋部材内側の液体吐出管との間にできた隙間を利用して、蓋部材の内側上端部分及び鏝を容器本体の首部との間に挟んで密着させるインナーリングを入れることができ、液漏れ防止の向上を計ることができる。

【図面の簡単な説明】

【図1】本発明の液体収納容器全体を示した断面図

【図2】本発明の液体収納容器のキャップを取り外した状態を示した断面図

【図3】本発明の液体収納容器における蓋部材の斜視図

【図4】本発明の液体収納容器における液漏れ防止構造を示す拡大断面図

【図5】本発明の液体収納容器の使用時における液漏れ防止構造を示す拡大断面図

【図6】本発明の液体収納容器の別の態様を示した断面図

【図7】同じく図6に示す液体収納容器のキャップを取り外した状態を示した断面図

【図8】図6に示す液体収納容器における蓋部材及び昇降ピンの分解斜視図

【図9】図6に示す液体収納容器における液漏れ防止構

造を示す拡大断面図

【図10】図6に示す液体収納容器の使用時における液漏れ防止構造を示す拡大断面図

【図11】本発明の液体収納容器における液漏れ防止構造の別の態様を示す拡大断面図

【図12】本発明の液体収納容器における液漏れ防止構造の更に別の態様を示す拡大断面図

【図13】本発明の液体収納容器における液漏れ防止構造の更に別の態様を示す拡大断面図

【図14】従来の液体収納容器における液漏れ防止構造を示す拡大断面図

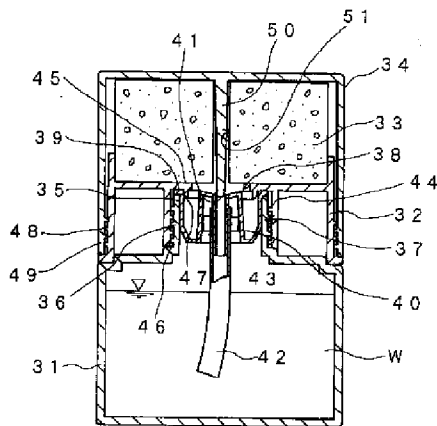
【図15】従来の別の液体収納容器における液漏れ防止

構造を示す拡大断面図

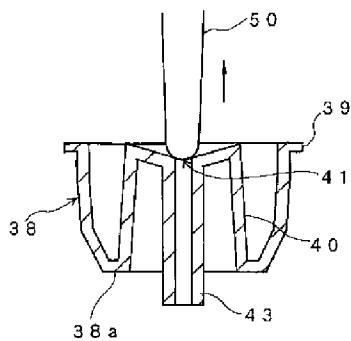
【符号の説明】

31、61	・・・容器本体
32、62	・・・開口部
38	・・・蓋部材
38a、68a	・・・蓋部分
40、72	・・・液体吐出管
41、73	・・・液体吐出孔
50	・・・当接部材
63	・・・当接部
64	・・・昇降ピン

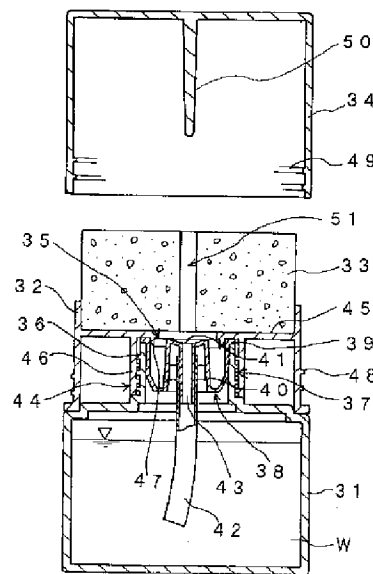
【図1】



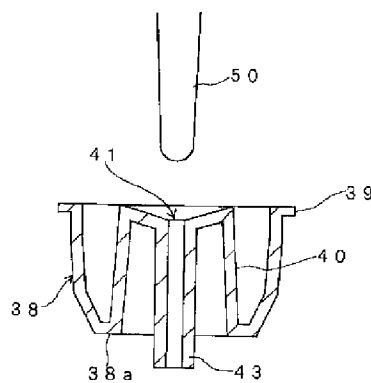
【図4】



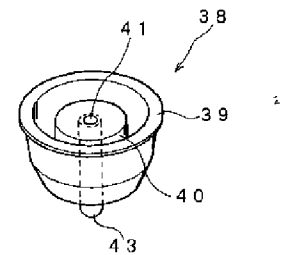
【図2】



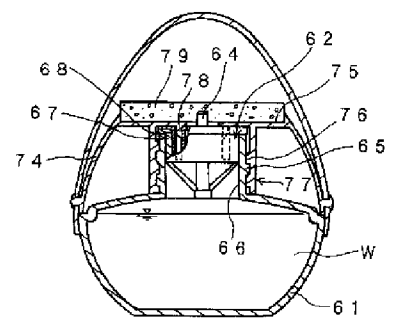
【図5】



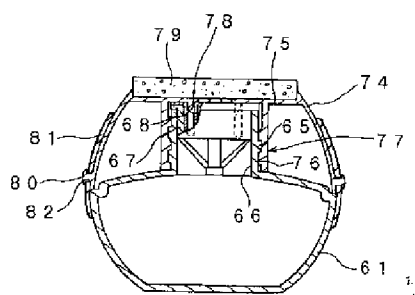
【図3】



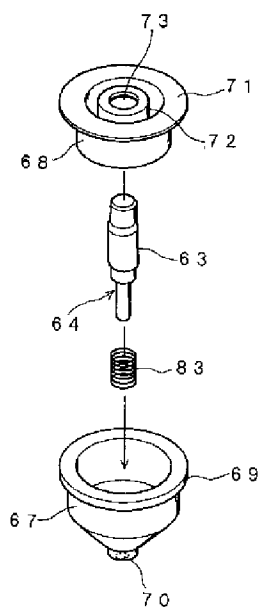
【図6】



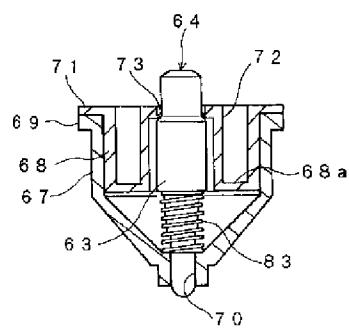
【図7】



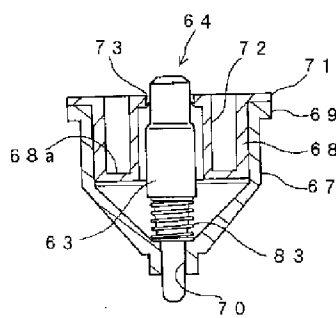
【図8】



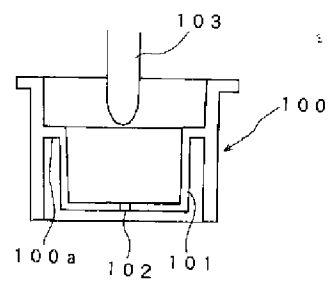
【図9】



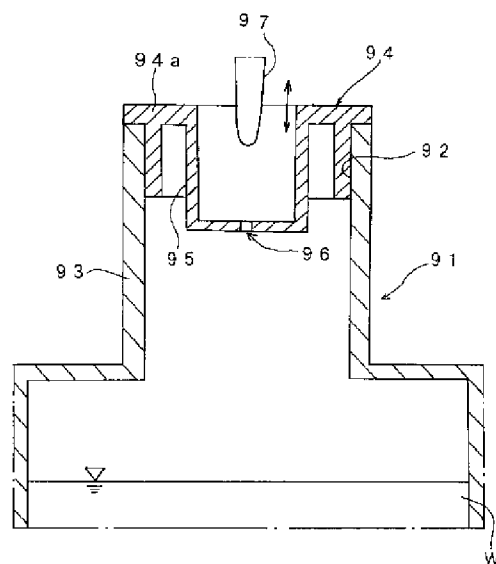
【図10】



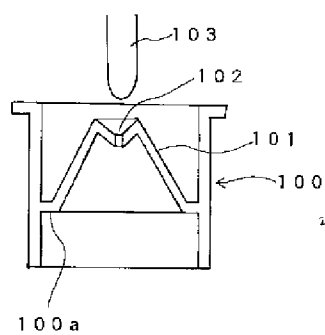
【図12】



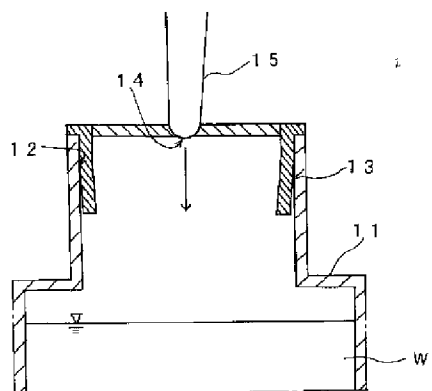
【図11】



【図13】



【図14】



【図15】

